ABSTRACT

An improved paperboard has been bulk enhanced by retaining a substantial portion of bulk-enhanced additives including expandable microspheres in a suitable distribution within the paperboard. The cellulosic paperboard web has an overall fiber weight (w) of at least 40 lbs./3000 square feet and at a fiber density of 3, 4.5, 6.5, 7, 8.3, and 9 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch respectively, has a GM Taber stiffness of at least about $0.00501w^{2.63}$ grams-centimeter/fiber mat density$^{1.63}$, and a GM tensile stiffness of at least about 1323+24.2w pounds per inch. The high retention of the bulk enhancing additives is believed to result from the incorporation of suitable retention aids. The resulting paperboard has better GM Taber stiffness values and GM tensile stiffness than prior art paperboards. The paperboard also has increased strain to failure and is able to be formed into suitable paperboard containers without loss of integrity. The resulting containers have increased hold times when they contain hot or cold food or drink.

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